



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,477	09/15/2005	Nicolo Ferro	8455.010.US0000	8132
77213 7590 12/02/2008 Novak Druce + Quigg, LLP 1300 Eye Street, NW, Suite 1000 Suite 1000, West Tower Washington, DC 20005				
EXAMINER				
HOLLOWAY, JASON R				
ART UNIT		PAPER NUMBER		
3633				
MAIL DATE		DELIVERY MODE		
12/02/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/549,477

Applicant(s)

FERRO, NICOLÒ

Examiner

JASON HOLLOWAY

Art Unit

3633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4 and 6-10 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 15 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 9-15-05
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

This communication is a first Office Action Non-Final rejection on the merits.

Claim 5 has been canceled. Claims 1-4 and 6-10 are currently pending and have been considered below.

Drawings

1. The drawings are objected to because the relationship of the longitudinal strip 20 to the longitudinal cross section in figure 2b is unclear. The item 20 appears to be sitting out in space in the left side of the drawing, and it is not clear how this item coincides with the curtain wall. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 8 is objected to because of the following informalities: It appears the word "any" in line 1 has been underlined instead of crossed out. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 3-4 and 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Regarding claim 3, the recitation "the relative stopper has at least a drainage hole and a discharge platelet arranged as an extension of said longitudinal element and below said drainage hole" renders the claim indefinite because the applicant does not disclose the manner in which the drainage hole and the discharge platelet are an extension of the longitudinal element.

Claims 4 and 6-10 depend from rejected claim 3 and therefore carry the same deficiency. Accordingly, claims 4 and 6-10 will be examined "as best understood."

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Biebuyck (4,055,923).

Regarding claim 1, Biebuyck discloses a system for joining horizontal mullions to vertical mullions, but does not explicitly disclose a method for assembly. However, given the structure, including all the necessary elements to construct the joining system, as disclosed by Biebuyck and set forth below regarding claims 3, 4 and 6-10, it would have been obvious to one of ordinary skill in the art to perform the method for assembling a system as set forth in claim 1, which involves attaching closure profiles to horizontal and vertical mullions in order to construct the system of Biebuyck.

Further, Biebuyck teaches a curtain wall comprising a reticular supporting structure (figure 6, 11), provided with uprights (vertical mullions 47) and cross-pieces (horizontal mullions 40), and covering elements (panels 42, 43) attached to said supporting structure, said uprights and said cross-pieces including first attachment means (hook portion at the end of 51 closest to 55) for closure profiles (exterior piece 55) positioned between two adjacent covering elements and provided with mating second attachment means (flange 53; figures 6, 11), comprising the steps of:

positioning said closure profiles (exterior piece 55) frontally with respect to said supporting structure to engage said second attachment means with said first attachment means (as illustrated in figures 6, 11);

rotating towards the outside said closure profiles around an axis passing through a point of engagement between said first and said second attachment means (the examiner construes the Biebuyck reference is capable of performing this function), compressing first sealing means (hook portion at end of 51) associated with a first edge of said closure profile against the first of said covering element (panel 42) (as illustrated in figures 6, 11 and 20); and

a third step of positioning second sealing means (via glazing gasket flanges 57; figures 6, 11) on a second edge of said closure profile to stabilize the positioning thereof by resting said second sealing means against the other covering element (panel 42) (as illustrated in figures 6, 11 and 20).

8. Claim 2 and as best understood claims 3-4 and 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biebuyck (4,055,923) in view of Reynolds (5,067,293).

Regarding claim 2, Biebuyck teaches coupling cross pieces (horizontal mullions 40) to uprights (vertical mullions 47)

However, Biebuyck fails to explicitly disclose the use of stoppers to connect the uprights the relative cross-piece, by inserting at least one plate solid with the relative stopper into a mating seating provided in the relative cross-piece, and employing first clamping means to attach the plate to the relative cross-piece under pressure, and coupling said cross-piece to a relative upright by anchoring an attachment element solid with said stopper to a relative profile provided in said upright and employing second clamping means to attach the cross-piece under pressure to the relative upright.

Reynolds teaches the use of stoppers (joint member 3) to connect the uprights (vertical mullion 1) the relative cross-piece (horizontal transom 2), by inserting at least one plate (laterally extending projection 9 and formation 4 are plates) solid with the relative stopper (3) into a mating seating provided in the relative cross-piece (2), and

employing first clamping means (transom 2 is clamped over joint member 3 and plate 12) to attach the plate to the relative cross-piece under pressure (transom 2 is clamped over joint member 3 and plate 12 which is a pressure fit), and

coupling said cross-piece (2) to a relative upright (1) by anchoring an attachment element solid with said stopper (9) to a relative profile (formation 4 is received in recess 5 of the upright to attach the transom to upright and is then fastened by screw 6; figures 1, 2) provided in said upright (1) and employing second clamping means (via screw 7) to attach the cross-piece (2) under pressure to the relative upright (1) (as illustrated in figures 1 and 2).

Therefore, from the teaching of Reynolds, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the horizontal mullion of Biebuyck to include the joint member as disclosed in Reynolds in order provide a stronger connection between the horizontal and vertical members.

Regarding claim 3, Biebuyck teaches a curtain wall comprising;

a reticular supporting structure (as illustrated in figures 2 and 3), provided with uprights (vertical mullions 47; figure 20) and cross-pieces (horizontal mullions 40; figure 20), and covering elements (exterior pieces 55; figure 20) attached to said supporting structure (as illustrated in figure 20),

a longitudinal element (resilient connector clips 51; figures 5-9 and 11-12) arranged substantially parallel to the relative upright (vertical mullions 47; figure 20) or cross-piece (horizontal mullions 40; figure 20) (as illustrated in figures 5-9 and 11-12 the connector clips can be parallel to both horizontal and vertical mullions) and including on at least part of its inner side a shaping able to couple in snap-in manner with a mating seating made in the relative upright or cross-piece (as illustrated in figures 5-9 and 11-12 a shaping of connector clip snaps into flange 52 which is located on either a vertical or horizontal mullion),

and on at least part of its outer side a first attachment means (via flange 53) capable of engaging with a mating second attachment means of a closure profile (the first attachment means of connector clips 51 attach to second attachment means flange 53 on exterior pieces 55 as illustrated in figures 5-9 and 11-12) capable of being positioned, in snap-in manner and by means of rotation, between two adjacent covering elements (panels 42),

wherein said longitudinal element (connector clip 51), in an intermediate position between said shaping (via flange 52) and said first attachment means (via flange 53), has a longitudinal hollow (as illustrated in figures 5-9, 11-12 and 20, a longitudinal hollow is formed) capable of conveying and channeling water and condensation,

a drainage hole (column 2 lines 11-15 teaches paths are created for escape of the diverted water which would constitute a hole as the water exited the mullion, alternatively, holes are drilled in the mullions) and a discharge platelet (water diverter 103; figures 6 and 20) (column 2 lines 3-15 teaches the use of the water diverter and

discharge holes) arranged as an extension of the longitudinal element 51 (the examiner determines as best understood the water diverter 103 and the holes are extensions of connector clips 51) and below the drainage hole (figure 20 shows a water diverter below the area of where the water discharge from the mullion takes place),

However, Biebuyck fails to explicitly disclose a relative stopper is provided at the ends of each of said cross-pieces.

Reynolds teaches a curtain wall building system in which a stopper (joint member 3) connects a vertical mullion (1) to horizontal transom (2).

Therefore, from the teaching of Reynolds, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the horizontal mullion of Biebuyck to include the joint member as disclosed in Reynolds in order provide a stronger connection between the horizontal and vertical members. Further, it would have been obvious to include the drainage hole in the stopper in order to provide the same water diversion characteristics as disclosed in Biebuyck.

Regarding claim 4, Biebuyck teaches the first and said second attachment means (the first attachment means of connector clips 51 attach into second attachment means flange 53 on exterior pieces 55 as illustrated in figures 5-9 and 11-12) have a substantially hook-type conformation (the examiner considers the attachment between the first and second attachment means to be hook-type by definition).

Regarding claim 6, Biebuyck teaches the drainage hole is located in correspondence with a channel defined by a shaping made in the upper part of the

relative cross-piece (column 2 lines 11-15 teach a drainage channel; figures 6 and 20 show the water path as being in the upper part of the horizontal mullion).

Regarding claim 7, Biebuyck teaches the cross pieces (horizontal mullions 40) are connected to the uprights (vertical mullions 47),

However, Biebuyck fails to explicitly disclose stoppers are attached to the relative cross-piece by at least an assembly plate (laterally extending projections 9 and formation 4 are plates) including holes (figure 1 shows screws 6 and 7 engaged in plates 4 and 9) into which relative clamping means (screws are clamping means under pressure) are inserted under pressure against a segment of the relative upright (as illustrated in figures 1 and 2).

Therefore, from the teaching of Reynolds, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the horizontal mullion of Biebuyck to include the joint member as disclosed in Reynolds in order provide a stronger connection between the horizontal and vertical members.

Regarding claim 8, Biebuyck teaches the cross pieces (horizontal mullions 40) are connected to the uprights (vertical mullions 47).

However, Biebuyck fails to explicitly disclose stoppers include snap-in attachment means facing towards a relative upright and at least a hole arranged adjacent to said snap-in attachment means for the insertion of clamping means under pressure against a segment of the relative upright.

Reynolds teaches stoppers (joint members 3) including snap-in attachment (corresponding extruded member snaps into place on the joint member 3, also, the joint

member can snap into place via recess 5 and outwardly projection portion 8 of the vertical mullion 1) means facing towards a relative upright (as illustrated in figures 1 and 2, attaching means face toward the vertical mullion) and at least a hole arranged adjacent to said snap-in attachment (via screws 6 and 7) means for the insertion of clamping means (screws 6 and 7 under pressure against a segment of the relative upright.

Therefore, from the teaching of Reynolds, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the horizontal mullion of Biebuyck to include the joint member as disclosed in Reynolds in order provide a stronger connection between the horizontal and vertical members.

Regarding claim 9, Biebuyck teaches the cross pieces (horizontal mullions 40) are connected to the uprights (vertical mullions 47).

Reynolds teaches a front of said snap-in attachment means (formation 4) includes a wedge-shaped segment capable of, during use, compressing a relative said stopper applied on the relative cross-piece (2) against the upright (1) with which said cross-piece is coupled (as illustrated in figures 1 and 2).

Therefore, from the teaching of Reynolds, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the horizontal mullion of Biebuyck to include the joint member as disclosed in Reynolds in order provide a stronger connection between the horizontal and vertical members.

Regarding claim 10, Biebuyck teaches the platelet (water diverter 103; figures 6 and 20) has a raised edge (as illustrated in figures 6 and 20) and has a base surface

capable of conveying inside the relative upright both the water that accumulates on the base surface of said longitudinal element (51), and the water that drains from said drainage hole.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Frey (5,839,236) teaches a curtain wall with an integrated drip system.

Stoakes (4,707,959) teaches a curtain wall with a stopper member.

Harbin (4,428,171) teaches a curtain wall with a water conveyance system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON HOLLOWAY whose telephone number is (571) 270-5786. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Glessner can be reached on 571-272-6843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JASON HOLLOWAY
Examiner
Art Unit 3633

JH

/Brian E. Glessner/
Supervisory Patent Examiner, Art Unit 3633